The 2004 British Columbia Seafood Industry Year in Review

BRITISH COLUMBIA

Ministry of Environment

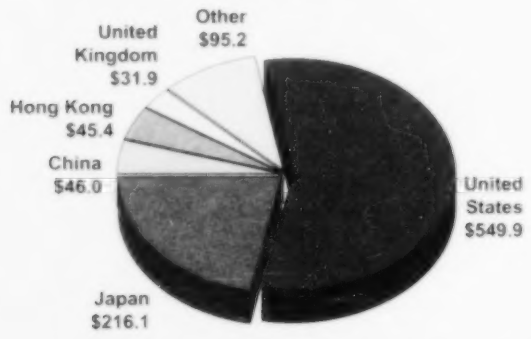
Ministry of Agriculture and Lands

Located on Canada's Pacific coast, British Columbia is the home to prime fishing grounds, world famous salmon rearing rivers, cool, pristine ocean farming areas and internationally respected fish processing facilities. The commercial fishers, fish farmers and seafood processors of the province work together to supply both domestic and export markets with a vast array of safe, high-quality seafood products.

Production and values of British Columbia seafood are influenced by a variety of factors. Fluctuations in wild fish populations, competition in the marketplace, the degree to which raw material is value-added, and changes in the economies of countries that are traditional markets, all affect the amount of fish harvested and its landed and wholesale values.

In 2004, the total British Columbia fish harvest from commercial capture fisheries and aquaculture facilities increased 9 per cent to 334,500 tonnes for a landed value of $618 million. The wholesale value of finished British Columbia seafood products was up slightly to $1,130.5 million and exports of wild and farmed fish, shellfish and marine plants reached 182,552 tonnes for a total export value of $984 million, shipped to 79 countries.

B.C. SEAFOOD EXPORT MARKETS – 2004
($ millions)



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British Columbia Seafood Production 2002 – 2004

	Harvest[1] ... '000 Tonnes ...			Landed Value[2] ... $ Millions ...			Wholesale Value[3] ... $ Millions ...		
	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]
Salmon									
Chinook	1.7	2.2	2.4	7.1	8.1	14.5	11.8	17.3	26.7
Sockeye	10.1	6.3	4.3	40.3	24.1	21.7	103.5	75.2	99.1
Coho	0.5	0.8	1.1	1.1	2.5	3.6	8.1	14.2	19.2
Pink	8.6	15.4	3.6	2.8	4.4	1.1	32.1	33.3	23.1
Chum	12.4	13.7	14.1	6.0	9.1	11.0	40.4	45.6	47.3
Subtotal[4]	33.3	38.4	25.5	57.3	48.2	51.9	198.6	188.4	218.9
Farmed Salmon[5]	84.3	72.7	61.8	289.0	255.8	212.2	338.9	305.6	294.2
Farmed Other Fish[6]	0.1	0.2	0.2	0.7	1.0	1.3	1.8	2.3	1.9
Herring									
Spawn on Kelp	0.4	0.4	0.4	10.6	9.3	4.5	12.8	11.5	6.2
Roe Herring	26.6	28.8	23.7	37.4	35.3	27.9	113.5	94.6	83.5
Food and Bait	0.3	0.3	0.3	0.4	0.4	0.4	3.1	3.4	3.0
Subtotal	27.3	29.5	24.4	48.4	45.0	32.8	129.4	109.5	92.7
Groundfish									
Halibut	7.3	7.1	7.3	48.0	49.2	51.4	71.4	89.0	90.0
Sablefish	3.0	2.3	2.8	20.8	21.3	21.5	23.1	23.7	25.0
Other Groundfish[7]	104.4	118.6	170.8	62.5	66.7	72.6	141.1	149.7	146.4
Subtotal	114.7	128.0	180.9	131.3	137.2	145.5	235.6	262.4	261.4
Shellfish									
Farmed	9.2	9.6	9.3	15.2	17.1	15.1	28.4	30.4	26.3
Wild	18.6	20.6	21.6	108.4	124.0	127.7	181.3	200.4	194.8
Subtotal	27.8	30.2	30.9	123.6	141.1	142.8	209.7	230.8	221.1
Other									
Tuna	5.1	6.7	7.8	11.2	14.7	28.0	20.5	22.8	36.4
Other	0.7	1.6	4.8	2.1	2.1	3.5	2.8	2.9	3.9
Subtotal	5.8	8.3	12.6	13.3	16.8	31.5	23.3	25.7	40.3
Grand Total	293.3	307.3	336.3	663.6	645.1	618.0	1,137.3	1,124.7	1,130.5

E Estimates - Volume and value estimates are derived from information available to June 2005 that has been adjusted to account for missing data.
P Preliminary – Volumes and values are revised from previously published estimates but are not yet final.
1. Harvest – The round (whole) weight of the fish harvested from British Columbia commercial fisheries and aquaculture operations. One tonne equals 2,204.6 pounds.
2. Landed Value – The price paid to the commercial fishers and or aquaculturists for the whole fish. In aquaculture this can also be referred to as farmgate value.
3. Wholesale Value – The value of the fish after processing. All of the fish from the British Columbia landings are included in the wholesale value as well as all fish imported from outside British Columbia that has undergone processing within the province.
4. The total wholesale value of wild salmon includes the value of salmon products such as offal, meal and oil which cannot be identified by species.
5. Farmed Salmon includes Atlantic, chinook, coho, sockeye and marine trout.
6. Farmed Other Fish includes freshwater trout and all non-salmonid fish species cultured in fresh and marine waters.
7. The total wholesale value for "Other Groundfish" includes the value of fish meal and oil which cannot be identified by species.

British Columbia Commercial Fishing and Aquaculture Harvest and Values 2002 - 2004

	Harvest ... '000 Tonnes ...			Landed Value ... $ Millions ...			Wholesale Value ... $ Millions ...		
	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]
Commercial Fishing	199.7	224.8	265.0	358.7	371.2	389.9	768.2	786.4	808.1
Aquaculture	93.6	82.5	71.3	304.9	273.9	228.1	369.1	338.3	322.4
Total	293.3	307.3	336.3	663.6	645.1	618.0	1,137.3	1,124.7	1,130.5

E Estimates P Preliminary

Commercial Fishing

More than 80 marine species are harvested in British Columbia's commercial fisheries. In 2004 the total harvest increased 18 per cent to 265,000 tonnes while the landed value rose 5 per cent to $389.9 million.

Salmon

Fluctuations occurred in both the harvest levels and landed values of all five wild salmon species in 2004. Overall the wild salmon harvest was down 34 per cent to 25,500 tonnes. The largest decline in harvest was noted in pinks which fell 77 per cent from 15,400 tonnes to 3,600 tonnes in 2004 as few pink salmon return to the Fraser River on even numbered years. The sockeye harvest was down 32 per cent to 4,300 tonnes. The chum salmon harvest, at 14,100 tonnes and chinook landings of 2,400 tonnes were up slightly from 2003 levels while the coho harvest increased 38 per cent to 1,100 tonnes. Chum salmon made up 55 per cent of the total wild salmon harvest followed by sockeye at 17 per cent, pinks at 14 per cent, chinook almost 10 per cent and coho at 4 per cent.

The 2004 total landed value of wild salmon increased 8 per cent to $51.9 million. Sockeye generated $21.7 million down 10 per cent from 2003 values with a 42 per cent share of the total landed value of wild salmon. Chinook increased 79 per cent to $14.5 million for a 28 per cent share of the total, followed by chum at $11 million (up 21 per cent in landed value) and contributing a 21 per cent share. Coho and pink prices were relatively unchanged and their landed values reflected the change in harvest levels as coho rose 44 per cent to $3.6 million and pinks dropped 75 per cent to $1.1 million.

British Columbia Groundfish Production
2002 - 2004

	Harvest ... '000 Tonnes ...			Landed Value ... $ Millions ...			Wholesale Value ... $ Millions ...		
	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]
Dogfish	4.7	5.8	5.5	2.7	5.1	3.6	6.7	11.5	9.8
Hake	56.9	69.2	124.9	13.8	13.7	23.6	37.3	40.1	44.5
Halibut	7.3	7.1	7.3	48.0	49.2	51.4	71.4	89.0	90.0
Lingcod	2.7	2.7	2.8	5.2	5.4	5.5	7.9	8.3	10.2
Pacific Cod	0.7	0.8	1.3	1.0	1.1	1.7	3.4	3.8	5.0
Pollock	3.6	5.4	2.9	1.0	2.6	1.4	2.5	3.3	3.3
Rockfish	22.2	21.7	20.0	28.0	28.9	26.5	49.0	48.7	44.8
Sablefish	3.0	2.3	2.8	20.8	21.3	21.5	23.1	23.7	25.0
Sole	6.7	6.1	6.1	7.1	7.1	7.0	14.9	13.0	12.2
Turbot	5.2	4.3	5.4	2.4	1.3	1.8	1.1	1.6	1.8
Other	1.7	2.6	1.9	1.3	1.5	1.5	18.3	19.4	14.8
Total	114.7	128.0	180.9	131.3	137.2	145.5	235.6	262.4	261.4

E Estimates P Preliminary

Groundfish

The 2004 groundfish harvest increased 41 per cent to 180,900 tonnes, most of which was contributed by the hake fishery. In British Columbia hake is becoming established as a significant contributor to the overall health of the groundfish sector with the largest harvest of any other single species in the province representing 37 per cent of the province's total fish production. At 124,900 tonnes the hake harvest was up 80 per cent over 2003.

Other notable increases in harvest occurred in the Pacific cod (up 63 per cent), turbot (up 26 per cent) and sablefish (up 22 per cent) fisheries. Most other groundfish species showed minor changes in harvests and values compared to 2003. The landed value of the groundfish harvest rose slightly to $145.5 million. Halibut contributed 35 per cent of the total value at $51.4 million followed by rockfish at $26.5 million (18 per cent), hake at $23.6 million (16 per cent) and sablefish at $21.5 million (15 per cent).

Shellfish

British Columbia's commercial shellfish fishery continued to grow in 2004. The provincial total harvest increased 5 per cent to 21,600 tonnes and the total landed value rose 3 per cent to $127.7 million. Crab fisheries contributed 44 per cent of the total wild shellfish harvest at 9,400 tonnes followed by prawns at 2,000 tonnes and geoduck clams at 1,800 tonnes for 9 per cent and 8 per cent shares respectively.

Significant variances occurred in both the harvest and value of most shellfisheries in 2004 compared to the previous year. Large declines in harvest were noted in green urchins (down 60 per cent), scallops (down 33 per cent), shrimp (down 31 per cent), prawns (down 17 per cent) and clams (down 13 per cent). Other species' harvest levels remained steady while the crab and geoduck fishery buoyed the entire sector with increases in harvest levels of 31 per cent and 6 per cent.

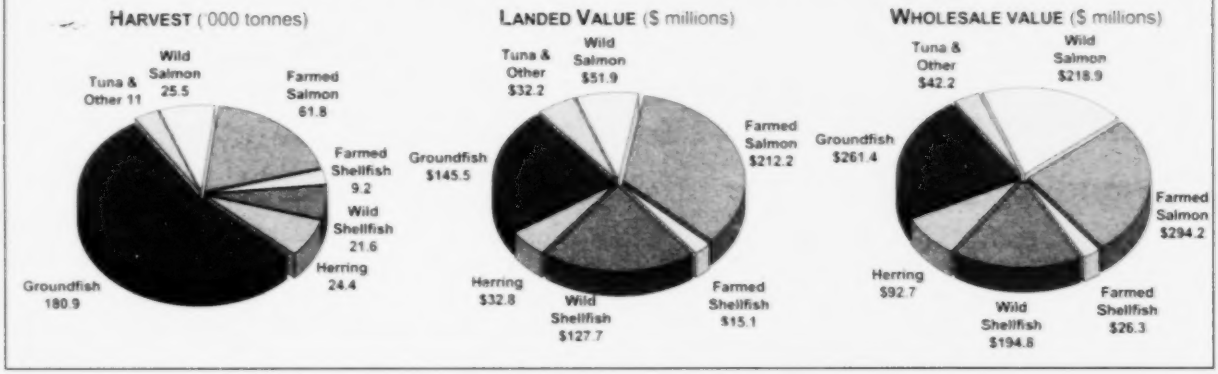
Crabs, geoducks and prawns were the largest contributors to wild shellfish harvest values. In 2004, crab landed value increased 19 per cent and generated $46.7 million for a 37 per cent share of the total wild shellfish landed value. Similarly, geoduck landed value increased 5 per cent to $33.6 million and a 26 per cent share of the total. Prawn prices were higher in 2004 than the previous year which helped to offset an expected drop in total value due to decreased harvest levels. Prawns contributed 24 per cent of the total landed value of wild shellfish at $30.1 million.

British Columbia Shellfish Production
2002 – 2004

	Harvest ... '000 Tonnes ...			Landed Value ... $ Millions ...			Wholesale Value ... $ Millions ...		
	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]	2002[P]	2003[P]	2004[E]
Farmed									
Clams	1.5	1.6	1.5	7.2	7.9	7.1	11.4	11.6	10.4
Oysters	7.5	7.8	7.6	7.5	8.4	7.1	15.6	17.0	13.7
Scallops & Other	0.09	0.15	0.15	0.5	0.8	0.9	1.4	1.8	2.2
Subtotal	9.1	9.6	9.3	15.2	17.1	15.1	28.4	30.4	26.3
Wild									
Clams	1.9	1.6	1.4	6.4	5.4	4.3	10.2	7.9	6.7
Crabs	4.3	7.2	9.4	29.0	39.1	46.7	51.7	66.3	67.9
Geoducks	1.8	1.7	1.8	38.2	31.9	33.6	51.4	49.5	51.8
Scallops	0.05	0.06	0.04	0.3	0.3	0.2	1.0	0.7	0.5
Sea Cucumbers	1.2	1.4	1.4	1.5	2.1	2.1	6.5	6.5	5.9
Sea Urchins: Red	4.8	4.3	4.4	8.0	7.2	7.3	17.7	16.2	15.7
Sea Urchins: Green	0.12	0.20	0.08	0.5	0.9	0.3	1.0	2.1	1.0
Shrimp	1.9	1.3	0.9	4.1	3.5	2.5	7.8	6.5	5.8
Prawns	1.9	2.4	2.0	19.4	32.9	30.1	32.0	42.5	37.3
Other	0.6	0.4	0.2	1.0	0.7	0.6	2.0	2.2	2.2
Subtotal	18.6	20.6	21.6	108.4	124.0	127.7	181.3	200.4	194.8
Total	27.7	30.2	30.9	123.6	141.1	142.3	209.7	230.8	221.1

E Estimates P Preliminary

RELATIVE IMPORTANCE OF MAJOR SPECIES GROUPS IN B.C. SEAFOOD HARVEST, LANDED VALUE AND WHOLESALE VALUE - 2004



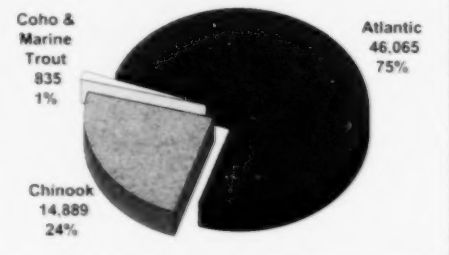
Aquaculture

Close to 30 species of fish, shellfish and marine plants were actively cultured on British Columbia's 744 freshwater and marine farms in 2004. The total harvest from British Columbia's aquaculture sector was down 14 per cent in 2004 to 71,300 tonnes for a 21 per cent share of all fish produced in the province. The total farmgate value of aquaculture fell 17 per cent in 2004 to $228.1 million and contributed 37 per cent of the total landed value of British Columbia fish production. Complimenting the production of the more traditional salmon and shellfish species are the new emerging species of geoduck clams, sablefish and sturgeon.

Salmon

Salmon is the largest and most important aquaculture sector in British Columbia in terms of both production levels (61,800 tonnes) and farmgate value ($212.2 million). Although farmed salmon harvests were down 15 per cent in 2004, the sector contributed 87 per cent of the total aquaculture harvest and 93 per cent of the value.

2004 B.C. FARMED SALMON HARVEST
(Round Tonnes)



Other Finfish

Farming of other finfish species occurred primarily on freshwater rainbow trout farms located throughout inland British Columbia. Other fish species cultured included sturgeon and tilapia in freshwater and sablefish on marine farms. In 2004 the total production of other fish was 200 tonnes worth $1.3 million.

Shellfish

The farming of shellfish has a long history in British Columbia and the farm sites occupy about one half of the total aquaculture production area allocated in the province. In 2004, shellfish aquaculture harvests were down slightly to 9,300 tonnes for a 13 per cent share of the provincial total aquaculture production.

Pacific oysters were the primary shellfish species contributing 82 per cent of the farmed shellfish production or 7,600 tonnes in-shell weight. Several species of clams were produced in British Columbia and in 2004, 1,500 tonnes were harvested representing 16 per cent of the farmed shellfish harvest with the remaining 2 per cent contributed by mussels, scallops and crayfish.

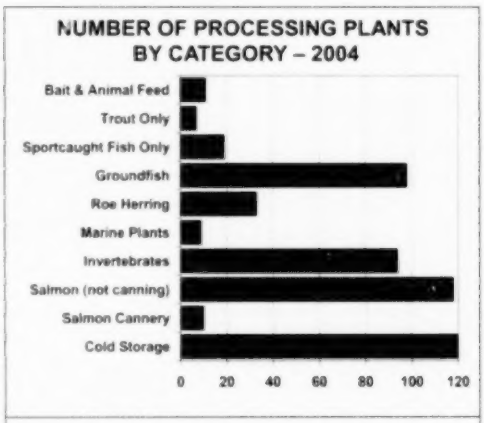
Prices paid to B.C. producers have decreased in part due to the strength of Canadian currency in the United States market place. The total farmgate value of farmed shellfish declined 12 per cent to $15.1 million in 2004 as the prices for most species fell. The total farmgate value of oysters dropped 15 per cent to $7.1 million and clams were down 10 per cent to $7.1 million. Scallops, mussels and crayfish sales increased 13 per cent to $900 thousand.

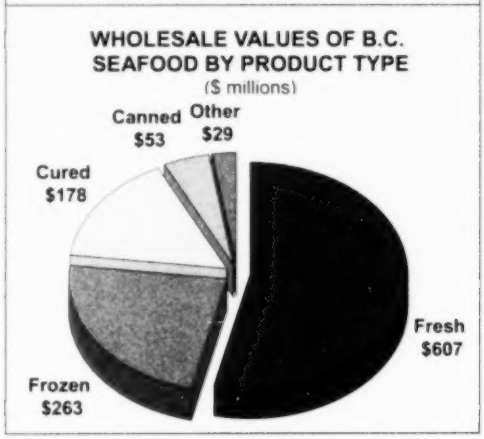
SEAFOOD PROCESSING

The provinces' 239 fish processing facilities are inspected and licensed each year for specific processing categories. A plant may be licensed for one or more categories depending upon their fish supplies (commercial fisheries / recreational fisheries or aquaculture) and markets (domestic or export). Most plants operate year-round producing a wide array of fresh/live, frozen, canned, smoked and specialty seafood products.

Species

The total wholesale value of British Columbia's seafood products was $1.1 billion dollars in 2004. Farmed salmon products at $294.2 million, while down 4 per cent from 2003 contributed 26 per cent of the provincial total wholesale value. Wild salmon products generated $218.9 million (a 19 per cent share of the provincial total) and up 16 per cent over 2003. The wholesale value of groundfish remained similar to 2003 at $261.4 million with a 23 per cent share. Farmed and wild shellfish products declined 4 per cent in wholesale value supplying 20 per cent of the B.C. total with a combined value of $221.1 million. Tuna and minor fish species made up the remainder of seafood wholesale value at $40.3 million.





Products

At $607 million, sales of fresh/live products made up 53 per cent of all B.C. seafood sales as 2004 saw an increased market demand and value for live rockfish, lingcod and sole. Frozen seafood generated a total of $263 million for a 23 per cent share of the wholesale value. The cured product category consisted primarily of smoked salmon, herring and sea cucumber roes and salted fish and contributed a 16 per cent share of the provincial total wholesale value at $178 million. In 2004, canned products generated $53 million in wholesale value (a 5 per cent share), primarily in salmon and tuna production. An additional $29 million of seafood sales (a 3 per cent share), fell into the "other" category which included increasingly popular retort portion packages used primarily for wild salmon as well as fish products such as meals, oils and animal feed.

Canned Salmon - British Columbia's 7 major salmon canneries produced 391,389 standard 48 lb cases of canned salmon in 2004. Canning production was down 30 per cent from the 552,707 standard cases produced in 2003. Pink and sockeye salmon dominated canned salmon production, and in 2004 these two species contributed a total of 379,701 cases to the pack, representing 97 per cent of the total. To ensure constant production levels and to satisfy pre-orders of canned product, B.C. canneries accessed salmon from Alaska to supplement domestic supplies. In 2004 a full 62 per cent (243,692 cases) of all B.C. canned salmon was derived from imported salmon.

Provincial Government Reorganization - Fisheries and Aquaculture Responsibilities

In June 2005 the provincial government ministries were re-organized and responsibilities for aquaculture, commercial fisheries and seafood development, formally under the Ministry of Agriculture, Food and Fisheries, were reallocated among the new ministries.

The Aquaculture Development Branch and the Fisheries and Aquaculture Licensing and Compliance Branch remained in the newly-named Ministry of Agriculture and Lands with little change to their focus or mandate.

The Fisheries and Seafood Development Branch was moved in its entirety to the Ministry of Environment to create a new Oceans and Marine Fisheries Division bringing its existing responsibilities for marine fisheries management and seafood industry development with an increased focus on the coordination of government's interests in B.C.'s ocean and marine resources.

"Salmon Forever: An Assessment of the Provincial Role in Sustaining Wild Salmon"

B.C.'s auditor general completed an audit of provincial programs to sustain wild salmon and manage any potential impacts of salmon aquaculture on wild stocks. The audit was undertaken in co-operation with the auditor generals of Canada and New Brunswick. In general, the audit recommended that B.C. needs to be more aggressive to secure the future of wild salmon and that considerable progress has been made in the management of salmon aquaculture. The province's response to the audit is contained in the report which can be found at http://www.bc.auditor.com/PUBS/2004-05/Report5/Salmon-environment.pdf

B.C.'s Fisheries Strategic Framework

The provincial resource ministries completed the first draft of an integrated and comprehensive strategic framework that defines a corporate vision, goals and objectives for fisheries conservation, management and development. The frame-work can be used to provide a foundation for more detailed sectoral action plans and innovation in fisheries governance, and to communicate government's fisheries objectives.

Implementing Canada's Ocean's Strategy

The Canada-B.C. Memorandum of Understanding on Implementing Canada's Oceans Strategy on the Pacific Coast was signed by Ministers on September 18, 2004. The overarching MOU calls for six sub-agreements:

1. Coordinated establishment of Marine Protected Areas.
2. Collaborative coastal planning and integrated oceans management planning.
3. Development of an integrated ocean information management system.
4. Cooperative development of indicators for oceans management and state-of-the-environment and sustainability reports.
5. Streamlining and harmonizing federal and provincial regulatory decision-making processes for shellfish and finfish aquaculture.
6. Process for facilitating the gathering and sharing of information related to off-shore oil and gas resources.

Pacific Council of Fisheries and Aquaculture Ministers (PCFAM)

British Columbia continued to engage Fisheries and Oceans Canada (DFO) through PCFAM in a more structured and disciplined relationship to advance provincial objectives for fisheries management and economic development. B.C. and DFO have agreed to establish four sub-committees under the Pacific Fisheries and Aquaculture Committee Working Group whose work plans are under development for implementation in 2005/2006. The four sub-committees are: Fisheries Management, Oceans, Aquaculture and Aquatic Habitat.

Pacific Salmon Forum

British Columbia established the independent Pacific Salmon Forum as a neutral entity to provide advice on securing the future of B.C.'s salmon. The Forum will be chaired by the Honourable John Fraser and the province has committed to providing $5 million in funding over 3 years. The forum's three objectives are to provide advice to government to:

1. Protect and enhance the viability of wild salmon stocks and their economic, social and environmental benefits to British Columbians;
2. Increase public confidence in fisheries management generally, and aquaculture in particular, in the marine environment; and
3. Enhance the economic, social and environmental sustainability of aquaculture for all coastal communities.

Integrated Fisheries Management Plan for Salmon

The Integrated Harvest Planning Committee for Salmon (IHPC) is a multi-stakeholder committee hosted by DFO and made up of representatives from commercial, recreational, First Nations, and Environmental Non-governmental Organizations (ENGO). The role of IHPC is to provide consensus advice in the development of the Integrated Fisheries Management Plan (IFMP) for salmon in British Columbia. Advice is intended to be focused on areas and issues of overlap or conflict between the fishing sectors. The IHPC held its inaugural planning meetings in May 2005. The collective advice and points of disagreement will be provided to the Minister of Fisheries and Oceans.

Sardines

- In 2004 the Pacific Sardine Advisory Board was established. The board is made up of elected representatives from sardine licence holders as well as processors and First Nations. The board's role is to provide long-term policy direction and advice on the management of the fishery to DFO on behalf of the commercial sardine industry.

- The sardine fishery is classed as a new and developing fishery in B.C. Started in 1998 and through to 2002 there were only 7 active participants. In 2003 the number of licences was expanded to 50 with half allocated to coastal First Nations. In 2004, 4,258 tonnes out of a total allowable catch of 15,000 tonnes were landed - the largest catch since the inception of the fishery. Markets are beginning to strengthen and there is renewed optimism for 2005.

Herring

- Although this fishery has been active for over 30 years, 2004 was the first year that an officially elected Herring Industry Advisory Board (HIAB) was established. The new HIAB is made up of elected members from both gillnet and seine sectors, the processing sector, union and two commercial fishing organizations. The HIAB's role is to advise DFO on long-term policy and the management of the roe herring and food/bait herring fishery. The HIAB members are also elected to the board of the Herring Conservation and Research Society which raises money for herring management and research.
- 2004 also saw the establishment of the Integrated Herring Harvest Planning Committee (IHHPC). This multi-stakeholder committee is made up of representatives from the roe herring and spawn on kelp fisheries, coastal First Nations, and ENGOs. The role of the IHHPC is to develop an integrated approach to herring management, harmonize the various herring fisheries, and ensure opportunities are provided for First Nations food, social and ceremonial requirements while keeping to established conservation principles.

Groundfisheries Management

The Commercial Groundfish Integrated Advisory Committee (CGIAC) is a multi-stakeholder committee with the objective of developing a unified sustainable groundfish industry. It advocates practices that are ecologically and economically sound and supports the basic principles defined in Canada's Oceans Act and international agreements. A Commercial Industry Caucus made up of representatives from each licensed groundfish fishery and processor, developed proposals for review by CGIAC. The April 1, 2004 to March 31, 2005 Integrated Fisheries Management Plan seeks to:

- Reduce by-catch and discards;
- Improve the transferability of quotas amongst fisheries that harvest multiple species and stocks; and
- Increase the economic value of the catch; and
- Improve harvest monitoring and accountability

(http://www-ops2.pac.dfo-mpo.gc.ca/xnet/content/MPLANS/plans04/html/groundfishtrawl/gfish_trawl.htm)

Processing at-Sea

The province is considering a review of its current policy with respect to licensing processing at-sea operations which was developed in the 1980's. Government needs to consider the current regulatory environment and evaluate possible options to improve industry viability and enable market opportunities for high quality fish products. One element of this is the at-sea processing policy and its impacts on communities, employment opportunities and the growth and profitability of our seafood industry.

Fisheries/Aquaculture Compliance & Enforcement

- The 2003 Annual Inspection Report on Marine Finfish Aquaculture Sites was released in September 2004, revealing an overall high level of compliance among the 77 salmon farms inspected by the province. In 2004, 78 salmon farms were inspected and the 2004 report will be released in fall 2005. http://www.agf.gov.bc.ca/fisheries/aqua_report.
- In November 2004, a 3 day workshop was held with various law enforcement agencies to discuss common issues relating to commercial fisheries. Agencies participating included then-ministry of Agriculture, Food and Fisheries, DFO, then-ministry Water, Land and Air Protection, Canadian Food Inspection Agency, B.C. Centre for Disease Control and various Health Authorities. The workshop improved coordination of joint inspections and investigations and communications between all agencies involved.

Strengthening Farming

B.C. is developing capacity to support the B.C. Farm Industry Review Board and the application of the Strengthening Farming program to shellfish and finfish farming. The program:

- Applies equally to all types of farming, including aquaculture;
- Promotes strong working relationships between local and provincial governments and the farming community; and
- Supports fair resolution of land use conflicts and effective community planning for a sustainable agriculture and aquaculture industry in British Columbia.

Finfish Aquaculture Development

A total of six new finfish aquaculture sites received full federal and provincial approvals in 2004. Two were applications received after the moratorium was lifted in 2002 and four were relocations or Pilot Project Technologies Initiative paired sites (one of which is in freshwater).

Salmon Aquaculture Waste Management

In 2004 the province formally implemented the use of Depomod, a waste sedimentation model to support provincial and DFO environmental assessment of salmon farms. The model predicts the sedimentation footprint and allows resource managers to avoid sensitive and critical fisheries habitat when siting salmon farms. Field research is planned in 2005 to further validate the model and information on wastage rates - a key parameter in the model.

Farmed Fish Health

During 2004 the Fish Health Management Plans for the salmon aquaculture industry were reviewed and approved. The plans encompass all aspects of on-farm management affecting fish health from routine handling and therapeutant treatments to monitoring and reporting of all mortality and fish health events that occur. Enforcement will begin in early 2006.

Sea Lice Research

A number of research projects on sea lice were initiated in 2004 and 2005 to create a better understanding of sea lice on the British Columbia coast. Some of these were supported by the Innovation Council through the work of the British Columbia Research and Development Committee. Recent and current projects include:

- North Coast sea lice baseline surveys 2004 & 2005
- Interactions between sea lice and wild and farmed salmonids
- Light trap and DNA methodology to monitor sea lice intensity and origin
- Estimation of impact of sea lice infestation from fish farms on native stocks
- Broughton Archipelago - Identifying natural sea lice hosts in the late fall & Impact assessment of sea lice on pink salmon recruitment
- Susceptibility of juvenile Pacific salmon to sea lice and consequences of infection
- Estimate of risk posed by sea lice on juvenile pink chum and sockeye salmon

Sea Lice Monitoring

- Mandatory sea lice monitoring and management continued for the entire salmon farming industry. Monthly and quarterly reports were submitted and summary data published at: http://www.agf.gov.bc.ca/health/Sealice/sealice_results.htm
- Provincial auditing of sea lice levels on farms continued with an increase in monitoring during the smolt outmigration. http://www.agf.gov.bc.ca/fisheries/health/Sealice/Sealice_monit_04-05.pdf

Shellfish Aquaculture Development

- The land base for the industry increased 8 per cent to 3,033 hectares.
- B.C. is working with DFO to develop a policy and procedures framework to proceed with expansion of geoduck clam aquaculture. This policy work will be completed in the summer of 2005, with industry's application for new subtidal tenures expected to commence shortly thereafter.
- B.C. is working with the Directors of the B.C. Shellfish Growers Association, to develop a strategic plan for the shellfish aquaculture industry to move the industry forward. Scheduled for completion by fall 2005 the plan will identify priority issues facing the industry and action plans to address these issues.
- The well-attended B.C. Shellfish Workshop held in March 2005 focused on shellfish carrying capacity and related ecological issues. Presentations on studies in B.C. and Washington State examined sustainability issues of phytoplankton utilization and sedimentation in relation to deepwater shellfish farms.

Aquaculture Research and Development

- The Canadian Aquaculture R&D Review, initiated by the province, was released in 2005. It includes summaries of over 150 recent research projects. http://www.naqua.com/RD-2005.pdf
- The Centre for Shellfish Research at Malaspina University-College conducted a study to determine the impact of particulate matter from oyster farms on ecosystem health. Preliminary results suggested that deep-water shellfish farms enhance ecosystem biodiversity and may provide an excellent habitat for both marine invertebrates and finfish.
- A study on the disinfection of bloodwater from plants processing IHNV-positive salmon revealed that wastewater ozonation is an appropriate treatment for removing bloodwater contaminants.

First Nations Initiatives

- Malaspina University-College completed the First Nations Shellfish Aquaculture Training Strategy funded by the Economic Measures Fund (B.C. Treaty Negotiation Office). Through the 17 training courses developed for community-based delivery in coastal areas, the strategy provided relevant and accessible education to B.C. First Nations people, and facilitated the development and operation of shellfish aquaculture businesses in and near First Nations communities.
- Collaborative sea lice monitoring between First Nations and salmon farm companies in Clayoquot Sound was initiated.
- A number of First Nations are actively working on Memorandum of Understandings that will designate map reserves for additional shellfish aquaculture tenures.

OUTLOOK 2005

Wild Salmon - The limited 2005 sockeye catch will have a negative impact on wild salmon total harvest as well as landed and wholesale values.

Farmed Salmon - Production levels are not expected to increase in 2005 but higher market prices should translate into increases in farmgate and wholesale values.

Herring - The 2005 roe herring fishery should show increased harvests over 2004 but prices paid to fishers and for finished roe products are not expected to improve.

Groundfish - As the hake fishery was expanded in 2004 it is not anticipated that the groundfish catch in 2005 would exceed this banner year. Prices are stable and the landed and wholesale values of groundfish should remain similar to 2004.

Farmed Shellfish - With slow harvest years in 2003 and 2004 it is anticipated that 2005 farmed oyster and clams harvests will rebound in 2005. The increase in farmed geoducks will have a major influence on the landed and wholesale value of the sector as a whole.

Wild Shellfish - The major shellfisheries should maintain their harvest levels in 2005 and will continue to garner strong prices in the both the domestic and export markets.

British Columbia Seafood Industry 2005

	Harvest	Landed Value	Wholesale Value)
Wild Salmon	↓	↓	↓
Farmed Salmon	↔	↑	↑
Herring	↑	↓	↓
Halibut	↔	↔	↔
Groundfish	↔	↔	↔
Wild Shellfish	↑	↑	↑
Farmed Shellfish	↑	↑	↑
Other Species	↔	↔	↔
Total B.C.	↔	↔	↔

Data Sources:

- All wild fisheries landings are provided by Fisheries and Oceans Canada, Pacific Region. (Preliminary values for 2002 and 2003 and estimates for 2004 have been adjusted.)
- All seafood finished products and wholesale values as well as aquaculture industry harvests and farmgate values are compiled by the provincial Ministry of Environment.

We encourage you to send us your comments on this publication and any suggestions for future issues to: fishstats@gov.bc.ca